

**WHAT IS CLAIMED IS:**

1           1.       A document-generation process comprising:  
2           parsing a raw document to create an internal representation of the document;  
3           reading a first-level transform from a transform database;  
4           applying the first-level transform to the internal representation so as to create a  
5                 first-level document;  
6           writing the first-level document to cache;  
7           receiving a first request for a second-level document that depends from the  
8                 first-level document;  
9           in response to the first request, reading a second-level transform from the  
10                 transform database;  
11           applying the second-level transform to the first-level document so as to create  
12                 a second-level document; and  
13           writing the second-level document to cache.

1           2.       A document-generation process as defined in Claim 1, further  
2                 comprising:  
3           revising the raw document;  
4           applying the first-level transform to the revised raw document so as to create a  
5                 revised first-level document;  
6           writing the revised first-level document to cache; and  
7           indicating that a then-existing second-level document is invalid.

1           3.       A document-generation process as defined in Claim 2, further  
2                 comprising:  
3           receiving a second request for the then-existing second-level document;  
4           determining that the then-existing second-level document has been indicated  
5                 invalid;  
6           applying the second-level transform to the revised first-level document so as  
7                 to create a revised second-level document; and  
8           writing the revised second-level document to cache.

4. A document-generation process as defined in Claim 1, further comprising:  
 receiving a request for a revised first-level transform;  
 revising the then-existing first-level transform;  
 applying the revised first-level transform to the raw document so as to create a revised first-level document;  
 writing the revised first-level document to cache; and  
 indicating that the then-existing second-level document is invalid.

5. A document-generation process as defined in Claim 4, further comprising:  
 receiving a second request for the then-existing second-level document;  
 determining that the then-existing second-level document has been indicated invalid;  
 applying the second-level transform to the revised first-level document so as to create a revised second-level document; and  
 writing the revised second-level document to cache.

6. A document-generation process as defined in Claim 1, wherein a respective GID is assigned to each of the first-level document and the second-level document.

7. A document-generation process as defined in Claim 1, wherein the first-level document and the second-level document are timestamped and wherein a document is deleted when a timestamp indicates that the document is stale.

8. A method of generating customized versions of a document, the method comprising:  
 storing the document in raw form;  
 parsing the document to create an internal representation of the document; and  
 decomposing the document.

1           9.     A method as defined in Claim 8, wherein decomposition of the  
2 document comprises applying sequential transforms to the document.

1           10.    A method as defined in Claim 9, wherein decomposition of the  
2 document comprises applying a first-level transform to the internal representation so  
3 as to create a first-level document.

1           11.    A method as defined in Claim 10, wherein decomposition of the  
2 document comprises applying a second-level transform to the first-level document so  
3 as to create a second-level document.

1           12.    A method as defined in Claim 10, wherein decomposition of the  
2 document comprises applying a third-level transform to the second level document so  
3 as to create a third-level document.

1           13.    A method as defined in Claim 8, wherein the document is stored in raw  
2 XML form.

1           14.    A method as defined in Claim 13, wherein decomposition of the  
2 document comprises applying sequential transforms to the document.

1           15.    A method as defined in Claim 14, wherein decomposition of the  
2 document stored in raw XML form comprises applying a subscription-level transform  
3 to the internal representation of the document so as to create a subscription-level  
4 document.

1           16.    A method as defined in Claim 1, wherein the subscription-level  
2 transform enables content filtering of the internal representation in accordance with a  
3 user's request.

1           17.     A method as defined in Claim 16, wherein decomposition of the  
2 document comprises applying an organization-level transform to the subscription-  
3 level document so as to create an organization-level document.

1           18.     A method as defined in Claim 17, wherein the organization-level  
2 transform enables subscription-specific content filtering of a subscription-level  
3 document.

1           19.     A method as defined in Claim 18, wherein decomposition of the  
2 document comprises applying a presentation-level transform to the organization-level  
3 document so as to create a presentation-level document.

1           20.     A method as defined in Claim 19, wherein the presentation-level  
2 transform generates an organization-specific document for end user presentation.

1           21.     A method as defined in Claim 20, wherein the presentation-level  
2 transform generates an HTML document or a text file for end user presentation.

1           22.     A method as defined in Claim 21, wherein the subscription-level  
2 transform is mandatory and the organization-level and presentation-level transforms  
3 are optional.

1           23.     A method as defined in Claim 8, wherein a transform is applied to a  
2 document only as a result of an initial demand for a transformed document.

1           24.     A method as defined in Claim 23, wherein the demand for a  
2 transformed document is a client request.

1           25.     A method as defined in Claim 24, wherein the demand for a  
2 transformed document is a document publication process.

1           26.     A method as defined in Claim 23, wherein transformed documents are  
2 written to a cache.

1           27.     A method as defined in Claim 26, wherein demands for a transformed  
2 document, subsequent to the initial demand, are referred to the cache.

1           28.     A data document generated according to a process comprising:  
2 storing a raw form of the document;  
3 parsing the document to create an internal representation of the document; and  
4 decomposing the document into a form requested by a recipient of the  
5 document.

1           29.     A data document as defined in Claim 28, wherein decomposing the  
2 document comprises applying a first-level transform to the internal representation of  
3 the document so as to create a first-level document and applying a second-level  
4 transform to the first-level document.

1           30.     A data document as defined in Claim 28, wherein the document is  
2 stored in XML form.

1           31.     A data document as defined in Claim 30, wherein the document stored  
2 in XML form is parsed by an XML parser to create the internal representation.

1           32.     A data document as defined in Claim 31, wherein the internal  
2 representation level of the document is transformed to a subscription-level document  
3 by applying a subscription-level transform to the internal representation.

1           33.     A data document as defined in Claim 32, wherein application of the  
2 subscription level transform to the internal representation so as to create a  
3 subscription-level document is required.

1           34.     A data document as defined in Claim 32, wherein the subscription-  
2 level document is transformed into an organization-level document by applying an  
3 organization-level transform to the subscription-level document.

1           35.     A data document as defined in Claim 34, wherein application of the  
2 organization-level transform to the subscription-level document so as to create an  
3 organization-level document is optional.

1           36.     A data document as defined in Claim 34, wherein the internal  
2 representation of the document is decomposed to a transform-level document only in  
3 response to a request for a transform-level document.

1           37.     A data document as defined in Claim 36, wherein transformed  
2 documents are written to a cache.

1           38.     A data document as defined in Claim 37, wherein an initial request for  
2 a transformed document causes decomposition of the internal representation into the  
3 form requested and wherein subsequent requests for a transformed document causes  
4 the transformed document to be retrieved from cache.

1           39.     A data document as defined in Claim 29, wherein the data document is  
2 generated according to a process comprising:  
3           tracking the dependencies of a transformed document; and  
4           regenerating the transformed document when any dependency related to the  
5           document changes.

1           40.     A data document as defined in Claim 39, wherein the document is  
2 generated according to a process comprising:  
3           designating a cached version of the document invalid when any dependency  
4           related to the document changes, and  
5           regenerating the transformed document in response to a request form the  
6           document that is made after the dependency change.

1           41.     A data document as defined in Claim 40, wherein the document is  
2 stored in XML form.

42. A data document as defined in Claim 39, wherein the document stored in XML form is parsed by an XML parser to create the internal representation.

43. A data document as defined in Claim 42, wherein the internal representation level of the document is transformed to a subscription-level document by applying a subscription-level transform to the internal representation.

44. A data document as defined in Claim 43, wherein application of the subscription level transform to the internal representation so as to create a subscription-level document is required.

45. A data document as defined in Claim 43, wherein the subscription-level document is transformed into an organization-level document by applying an organization-level transform to the subscription-level document.

46. A data document as defined in Claim 45, wherein application of the organization-level transform to the subscription-level document so as to create an organization-level document is optional.

47. A data document as defined in Claim 45, wherein the internal representation of the document is decomposed to a transform-level document only in response to a request for a transform-level document.

48. A data document as defined in Claim 47, wherein transformed documents are written to a cache.

49. A system for generating customized documents, the system comprising:  
a primary database that includes a document table and a transform table;  
a raw-data database accessible by the primary database;  
a transform database accessible by the primary database; and

a cache coupled to the primary database and storing customized versions of documents.

50. A system for generating customized documents as defined in Claim 49, wherein the raw-data database stores data documents in XML form.

51. A system for generating customized documents as defined in Claim 49, wherein the transform database stores XSL stylesheets.

52. A system for generating documents as defined in Claim 49, wherein the transform database stores Java classes.

53. A method of generating customized versions of a document, comprising:  
 storing the document in a primitive form;  
 transforming the document from primitive form into an internal representation of the document;  
 transforming the internal representation into at least one subscription-level document, into a DEFAULT organization-level document and into at least one user-specific organization-level document;  
 transforming the DEFAULT organization-level document into at least one presentation-level document; and  
 transforming the user-specific organization-level document into at least one presentation-level document.

54. A method of generating customized versions of documents as defined in Claim 53, wherein the user-specific organization-level document is transformed into at least two presentation-level documents.

55. A method of generating customized versions of documents as defined in Claim 54, wherein the user-specific organization-level document is transformed into an HTML presentation-level document and into a FLAT presentation-level transform.



1           56.     A method of generating customized versions of a document as defined  
2 in Claim 53, wherein:

- 3           (i)     the internal representation is transformed into a first subscription-level
- 4                 document and into a second subscription-level document;
- 5           (ii)    the first subscription level document is transformed into a subscription-
- 6                 level specific DEFAULT organization-level document and into at least
- 7                 one user-specific organization-level document; and
- 8           (iii)   the second organization-level document is transformed into a
- 9                 subscription-level-specific DEFAULT organization-level document.

1           57.     A method of generating customized versions of a document as defined  
2 in Claim 56, wherein the document is stored in XML form.

4           58.     A system for the generation of customized data documents, the system  
5 comprising:

- 6           first database means for storing raw data documents;
- 7           first tabular means for storing document records;
- 8           an interface coupling the first database means to the first tabular means;
- 9           second database means for storing a compilation of transforms that enable an
- 10                internal representation of a document to be transformed into a first-
- 11                level document and that enable the first-level document to be
- 12                transformed into a second-level document;
- 13           second tabular means for storing transform records; and
- 14           an interface coupling the second database means to the second tabular means.

15          59.     A system as defined in Claim 58, further comprising:  
16          a cache coupled to the first tabular means and to the second tabular means.

17           60.     A system as defined in Claim 58, wherein the second database means  
18 stores a compilation of transforms that enable:  
19           transforming an internal representation into at lest one subscription-level  
20           document, into a DEFAULT organization-level document and into at  
21           least one user-specific organization-level document;  
22           transforming the DEFAULT organization-level document into at least one  
23           presentation-level document; and  
24           transforming the user-specific organization-level document into at least one  
25           presentation-level document.

26           61.     A system as defined in Claim 60, wherein the second database means  
27 stores a compilation of transforms that enable:

- 28           (i)     the internal representation to be transformed into a first subscription-  
29           level document and into a second subscription-level document;
- 30           (ii)    the first subscription level document to be transformed into a  
31           subscription-level specific DEFAULT organization-level document  
32           and into at least one user-specific organization-level document; and
- 33           (iii)   the second organization-level document to be transformed into a  
34           subscription-level-specific DEFAULT organization-level document.

35           62.     A system as defined in Claim 61, further comprising:  
36 a cache coupled to the first tabular means and to the second tabular means.  
37